

REMARKS

The Applicant thanks the Examiner for the careful examination of this application. This Amendment is submitted to respond to the Examiner's Office Action dated 1/30/03 and to prepare this case for appeal. Claims 12 – 13 and 15 are cancelled herein. Claims 14 and 16 are pending and rejected.

In addition to the comments already entered on the record by the Applicant in his 111 Amendment dated 12/16/02, the Applicant enters the following additional comments into the record in preparation for Appeal.

Amended claim 14 positively recites depositing a layer of emitter polysilicon onto the oxide and into the aperture. Claim 14 further recites etching back the layer of emitter polysilicon to stop on a top surface of the oxide. These advantageously claimed features are not taught or suggested by the patents granted to Chin et al., and Brighton, and the article of Walczyk et al., either alone or in combination.

Chin teaches away from the advantageously claimed invention because Chin et al. specifically teaches that the emitter is formed by an implantation process (col. 3, lines 2-3). Similarly, Brighton teaches away from the advantageously claimed invention because Brighton specifically teaches that the emitter is formed by an implantation process (col. 3, lines 48-50). Moreover, Walczyk teaches away from the advantageously claimed invention because Walczyk specifically teaches that the use of an additional layer between poly and single crystal silicon (page 87). In addition, none of the references teach an etching of the layer of emitter polysilicon that stops on the top surface of the oxide. Lastly, not only is there no teaching to combine the references, it would be illogical to combine the references

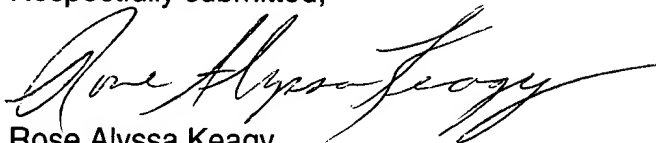
since each reference discusses a manufacturing process that precludes the teachings of the other references.

Claim 16 is allowable for depending on allowable independent Claim 14 and including further limitations not taught or described in the references of record. Specifically, Claim 16 positively recites in situ doping of the emitter polysilicon up to a level of $1E21$ atoms per cubic centimeter with a dopant material and performing a rapid thermal anneal to diffuse the dopant material. These advantageously claimed features are not taught or suggested by the patents granted to Chin et al., and Brighton, and the article of Walczyk et al., either alone or in combination.

Chin teaches away from the advantageously claimed invention because Chin et al. specifically teaches that the emitter is formed by an implantation process (col. 3, lines 2-3). Similarly, Brighton teaches away from the advantageously claimed invention because Brighton specifically teaches that the emitter is formed by an implantation process (col. 3, lines 48-50). Therefore, neither Chin et al., nor Brighton teach a process using in situ doped polysilicon. Moreover, Walczyk teaches away from the advantageously claimed invention because Walczyk specifically teaches that the use of an additional layer between poly and single crystal silicon (page 87). Lastly, not only is there no teaching to combine the references, it would be illogical to combine the references since each reference discusses a manufacturing process that precludes the teachings of the other references.

For the reasons stated above, this application is believed to be in condition for allowance. Reexamination and reconsideration is requested.

Respectfully submitted,

A handwritten signature in cursive script, reading "Rose Alyssa Keagy". The signature is fluid and extends to the right.

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